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L- or D-lactide prepn. - by heating L- or D-poly(lactic acid) in presence of a tin catalyst

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Patent Family (8 patents, 16 countries)

Patent Application

Number	Kind	Date	Number	Kind	Date	Update
EP 261572	A	19880330	EP 1987113529	A	19870916	198813 B
BR 198704814	A	19880517			198824	E
JP 63101378	A	19880506	JP 1987234717	A	19870918	198824 E
DE 3708915	A	19880929	DE 3632103	A	19860920	198840 E
		DE 3708915	A	19870319		
US 5053522	A	19911001	US 1989347856	A	19890505	199142 E
DE 3745080	A1	19940818	DE 3708915	A	19870319	199432 E
		DE 3745080	A	19870319		
DE 3708915	C2	19960404	DE 3708915	A	19870319	199618 E
JP 2574323	B2	19970122	JP 1987234717	A	19870918	199708 E

Priority Applications (no., kind, date): DE 3632103 A 19860920; DE 3708915 A 19870319; DE 3745080 A 19870319

Alerting Abstract EP A

Prodn. of L-(-)- and/or D-(+)-lactide comprises heating L-(-)- or D-(+)-poly(lactic acid) (mean Mr about 400-2,000) in the presence of a catalyst (0.05-1.0wt.%), at 130-230 deg.C under reduced pressure, distilling off the lactide as it is formed. The catalyst is powdered tin, a tin halide, or an organic Sn cpd., pref. Sn(II) 2-20C alkanooates, alkenoates, hydroxyalkanoates, naphthoates or benzoates. The process is operated batchwise or continuously. Poly(lactic acid) is obtd. by heating lactic acid with the above catalysts at about 150-170 deg.C, at reduced pressures.

ADVANTAGE - The process gives improved yields (e.g. 65-80%) of the optical enantiomorphs (99% purity).

Equivalent Alerting Abstract US A

The (semi)continuous process for prepn. of L-(-) or D-(+)-lactide of substantial optical purity, comprises L-(-)-poly(lactic acid) as the starting material to make L-(-) lactide and D-(+)-poly(lactic acid) is used as the starting material to make D-(+)-lactide, where the starting materials are of 90% optical purity, and where the poly(lactic acid) is heated to 130-230 deg.C., under reduced pressure, in the presence of 0.05-1.0 wt.% of a

catalyst from tin dust, tin halide and organic tin cpds. derived from 1-20C carboxylic acids. Pref. the tin cpd. is tin lactate, tin tartrate, tin oxalate, tin dicaprylate, tin dilaurate, tin dipalmitate, tin distearate, tin dioleate, tin alpha-naphthoate, tin beta-naphthoate and tin dioctate.

USE - Optically pure lactides are prepd. by the (semi)continuous industrial process.

USE - (4pp)